REMARKS

This Amendment is responsive to the Office Action dated March 29, 20045. All rejections and objections of the Examiner are respectfully traversed. Reconsideration and further examination is respectfully requested.

At paragraphs 1-42 of the Office Action, the Examiner rejected claims 1-4 and 6-57 for obviousness under 35 U.S.C. 103(a), citing the combination of Tony Ballardie and Jon Crowcroft in "Multicast-Specific Security Threats and Counter-Measures" ("Ballardie"), and United States Patent number 6,154,463 of Aggarwal et al. ("Aggarwal et al."). Applicants respectfully traverse this rejection. In response to Applicants' previous response, the Examiner has withdrawn the previous rejection under 102(a) based on Ballardie, recognizing that Ballardie does not teach features of the present claims. The Examiner has performed a new search, and now relies on Aggarwal et al. for teaching the presently claimed techniques for access devices joining multicast groups on behalf of subscriber devices in a subscriber location. Applicants respectfully traverse this rejection.

Applicants first respectfully urge that the Examiner has not established a sufficient motivation to combine the cited references. A *prima facie* case of obviousness under 35 U.S.C. 103 must include a showing of a suggestion, teaching or motivation that would have led a person of ordinary skill in the art to combine the cited references *in the particular manner claimed*. See In re Dembiczak, 175 F.3d 994, 998 (Fed. Cir. 1999), and In re Kotzab, 217 F.3d 1365, 1371 (Fed. Cir. 2000). In the present Office Action, the Examiner asserts that "it would have been obvious to one skilled in the art, during the time of the invention, to combine the teachings of Ballardie with those of Aggarwal, to provide multicast capability". Applicants respectfully submit

that both Ballardie and Aggarwal et al. independently describe the use of multicasting. Accordingly, there is no need to combine one with other to "provide multicast capability", since both independently provide such capability.

Even if there were sufficient motivation to combine Ballardie and Aggarwal et al., and Applicants make no admission that such motivation exists, the combination still does not teach the present claims. Aggarwal et al. disclose a protocol providing symmetric multicast capability, supporting group communication with any node of a group, with each node able to be either a sender or a receiver. The Aggarwal et al. protocol controls initial entry of members into a discussion group, supports security mechanisms that can be developed for the Internet environment, and provides dynamic joining and leaving of members of a discussion group. See column 3, lines 22-30.

In the Aggarwal et al. system, a user connected to a local area network initiates a new group by registering the group with a multicast sessions directory. The user then launches a gatekeeper application of the Aggarwal et al. system, which notifies a gatekeeper router on the local area network that it will act as the gatekeeper router for the new group. A user connected to another local area network sends a request to become a new member of the group by sending the request to a gatekeeper application for approval. If the request is approved, the gatekeeper application informs the gatekeeper router of the other local area network so that a route is established to the new member, and the gatekeeper router of the first local area network sends a route update table message to the gatekeeper router of the other local area network adding a tunnel to the group.

Through this approval process, the gatekeeper application of Aggarwal et al. can assert control over group membership, and a multicast application can be assured that routes are being

computed based only on valid group members. The gatekeeper application can also control when new members are allowed to join the group by delaying when the join is sent to the network, to enforce a rule that only allows new members to enter at a specified time. The Aggarwal et al. gatekeeper application can influence routing decisions, and can instruct the network to recompute the routes or even switch to an entirely new algorithm for computing routes.

As noted in previous responses, Ballardie discusses security risks in a communication networks that have multicasting, previous approaches to multicast security, and a proposed authorization infrastructure using authentication servers that support a technique for multicast group access control.

Nowhere in the combination of Ballardie and Aggarwal et al. is there disclosed or suggested any multicast communication system having multiple subscriber locations, each subscriber location having a single access device through which a plurality of subscriber devices access multicast information sent by a multicast distribution device, and in which:

> . . . ***each said access device acts to join and leave at least one multicast group on behalf of the subscriber devices at its respective subscriber location, and wherein each said access device processes a join request from one of said subscriber devices by determining whether said access device is already joined to a multicast group indicated by said join request, and, in the event that said access device is not already joined to said multicast group indicated by said join request, sending a join request to said multicast distribution device.*** (emphasis added)

as in the present independent claims 1, 4, 15, 28 and 42. In contrast, the gatekeeper application of Aggarwal et al. handles join requests by either *accepting or rejecting them* based on the needs of a multicast application, and potentially in response to a user providing a password to complete the join operation. In the case where a join request is accepted by the gatekeeper application of

Aggarwal et al., the gatekeeper application informs a gatekeeper router for purposes of establishing a route to the new member. Neither the gatekeeper application nor the gatekeeper router of Aggarwal et al. acts to "*join and leave at least one multicast group on behalf of the subscriber devices at its respective subscriber location*", as in the present independent claims. In contradistinction, the gatekeeper application and gatekeeper router of Aggarwal et al. facilitate *members joining the group directly*, while controlling the members that are allowed to join, and facilitating route establishment with regard *to such allowed members.* Moreover, since Ballardie also expressly teaches that client systems themselves are responsible for joining multicast groups, and that client systems directly issue their own join messages, both Ballardie and Aggarwal et al. teach away from any system, such as that of the present independent claims, in which an access device operates to join a multicast group on behalf of multiple subscriber devices in a subscriber location.

For the reasons stated above, Applicants respectfully urge that the combination of Ballardie and Aggarwal et al. does not disclose or suggest all the features of the present independent claims 1, 4, 15, 28 and 42. Accordingly, the combination of Ballardie and Aggarwal et al. does not support a *prima facie* case of obviousness under 35 U.S.C. 103 with regard to claims 1, 4, 15, 28 and 42. As to the remaining claims, they each depend from either claim 1, 4, 15, 28 or 45, and are believed to be patentable over the combination of Ballardie and Aggarwal et al. for at least the same reasons. Reconsideration of all pending claims is respectfully requested.

For these reasons, and in view of the above amendments, the Examiner's rejections are respectfully believed to be overcome, and it is respectfully requested that they be withdrawn. This application is now considered to be in condition for allowance and such action is earnestly solicited.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone David A. Dagg, Applicants' Attorney at 617-630-1131 so that such issues may be resolved as expeditiously as possible.

Respectfully Submitted,

JUNE 27 2005
Date

David A. Dagg, Reg. No. 37,809
Attorney/Agent for Applicant(s)
Steubing McGuinness & Manaras LLP
125 Nagog Park
Acton, MA 01720
(978) 264-6664

Docket No. 120-348